



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/537,372	03/24/2000	LLoyd A. Groveman	2902/0G377	3747

7590 03/28/2003  
Darby & Darby P C  
805 Third Avenue  
New York, NY 10022

EXAMINER

CHENCINSKI, SIEGFRIED E

ART UNIT	PAPER NUMBER
----------	--------------

3628

DATE MAILED: 03/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/537,372

Applicant(s)

GROVEMAN ET AL.

Examiner

Siegfried E Chencinski

Art Unit

3628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 6) ☐ Other:

## DETAILED ACTION

### *Objections*

**1. Minor Informalities**

**a) SPECIFICATIONS:** Page 2, line 13 ends with the word "criteria". The context requires that this expression be in the singular "criterion".

**b) CLAIMS:** The claims are objected to for containing extraneous words or having missing words.

**Claims 19, 29 and 32**, which have virtually identical wording, either have one or more words missing in sub-element 3., line 1 of 19 & 29 and 32 d), "balancing implied volatility percentage from (?) of the options in the first set ....", or have the extra word "from".

Corrections are required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**3. Claim 1-31 are rejected under 35 U.S.C. 102(b)** as being anticipated by **Kolb, Robert W., Futures, Options, & Swaps, 3<sup>rd</sup> Ed., 1999.**

Art Unit: 3628

**Re. Claims 1,** Kolb discloses a method for actively managing an account through volatility arbitrage and harvesting (Ch. 7, page 204, line 1, - page 217, line 13), comprising the steps of

- (A) establishing a tracking basket containing a plurality of equities, the equities in the tracking basket being included in an underlying index and together possessing at least one of-
  - 1. A high degree of correlation to the underlying index (Ch. 4, pages 101-105); and
  - 2. A predetermined volatility differential relative to the underlying index (Ch. 8, pp. 227-233, 237-247); and
- (B) dynamically hedging the tracking basket using options (Ch. 8, p. 235, lines 18-19, pp. 235-237).

**Re. Claim 2,** Kolb discloses a method as in claim 1, wherein the establishing step comprises executing an optimization routine on a programmed computer against at least one predetermined constraint, the optimization routine compiling the tracking basket to include a set of equities and a quantity of each equity in the set (Ch. 7, page 207, line 23 – page 210, line 7).

**Re. Claim 3,** Kolb discloses a method as in claim 2, wherein the at least one predetermined constraint is that a prescribed percentage of the tracking basket consist of equities having a minimum volatility differential relative to the underlying index (Ch. 8, pp. 227-233, 237-247).

**Re. Claim 4,** Kolb discloses a method as in claim 3, wherein all of the equities in the tracking basket have a minimum volatility differential relative to the underlying index (Ch. 8, pp. 227-233, 237-247).

Art Unit: 3628

**Re. Claim 5**, Kolb discloses a method as in claim 3, wherein a second predetermined constraint is that the tracking basket be less than a predetermined percentage of the underlying index (Ch. 8, pp. 227-233, 237-247).

**Re. Claim 6**, Kolb discloses a method as in claim 1, wherein the establishing step includes a regression analysis which results in a tracking basket that achieves an  $r^2$  value, relative to the underlying index, above a predetermined value (Ch. 4, p. 103).

**Re. Claim 7**, Kolb discloses a method as in claim 6, wherein the  $r^2$  value is 0.8 or higher (Ch. 4, p. 103).

**Re. Claim 8**, Kolb discloses a method as in claim 6, wherein the  $r^2$  value is maximized (Ch. 4, p. 103).

**Re. Claim 9**, Kolb discloses a method as in claim 6, wherein the establishing step further includes swapping equities into and out of the tracking basket and repeating the regression analysis until a tracking basket is identified that achieves the  $r^2$  value above the predetermined value (Ch. 4, p. 101-105).

**Re. Claim 10**, Kolb discloses a method as in claim 1, wherein the establishing step results in a tracking basket which includes less than a predetermined percentage of the underlying index (Ch. 4, p. 101-105).

**Re. Claim 11**, Kolb discloses a method as in claim 10, wherein the predetermined percentage is 70%, whereby the tracking basket is not substantially identical to the underlying index (Ch. 4, p. 101-105).

**Re. Claim 12**, Kolb discloses a method as in claim 1, wherein the hedging step is performed in accordance with predetermined criteria (Ch. 4, p. 101-105).

Art Unit: 3628

**Re. Claim 13**, Kolb discloses a method as in claim 1, wherein the hedging step includes raising premium by selling call options on a plurality of the equities in the tracking basket (Ch. 1, pp.3-4; Ch. 10, p. 295; Ch. 11, 308-313).

**Re. Claim 14**, Kolb discloses a method as in claim 1, wherein the hedging step includes the step of buying put options on the underlying index in an amount sufficient to cover the notional amount of the tracking basket (Ch. 1, pp.3-4; Ch. 10, p. 295; Ch. 11, 313-316).

**Re. Claim 15**, Kolb discloses a method as in claim 14, wherein the hedging step further includes selling a selection of options on a plurality of the equities in the tracking basket to raise premium in an amount greater than the cost of buying the put options (Ch. 1, pp.3-4; Ch. 10, p. 295; Ch. 11, 313-316, Ch. 11, 304-346).

**Re. Claim 16**, Kolb discloses a method of claim 15, including the additional step, prior to the step of buying put options, of selecting the put options so that the net delta of the tracking basket and the selection of options is below a threshold value (Ch. 1, pp.3-4; Ch. 10, p. 295; Ch. 11, 313-316).

**Re. Claim 17**, Kolb discloses a method of claim 15, including the additional step, prior to the step of buying put options, of selecting the put options so that the net delta of the tracking basket and the selection of options is minimized (Ch. 1, pp.3-4; Ch. 10, p. 295; Ch. 11, 313-316).

**Re. Claim 18**, Kolb discloses a method as in claim 1, wherein the hedging step comprises buying put options on a plurality of the equities in the tracking basket and selling call options on a plurality of the equities in the tracking basket (Ch. 1, pp.3-4; Ch. 10, p. 295; Ch. 11, 313-316; Ch. 11, 304-346).

Art Unit: 3628

**Re. Claim 19**, Kolb discloses a method as in claim 1, wherein the hedging step includes:

1. performing a skew analysis on at least a portion of the equities in the tracking basket over one or more maturity periods to identify a first set of options each commanding a premium;
2. identifying a second set of options each of which has a relative implied volatility which is greater than its historical volatility in a given maturity period; and
3. balancing the implied volatility percentage from of the options in the first set against the relative implied volatilities of the options in the second set to identify a selection of options to sell (Ch. 4. pp. 98-105).

**Re. Claim 20**, Kolb discloses a method as in claim 19, wherein the hedging step further includes selling the selection of options to raise a premium and purchasing a long put against the underlying index for an amount which is not substantially greater than the premium raised (Ch. 10, p. 295; Ch. 11, 313-316; Ch. 11, 304-346).

**Re. Claim 21**, Kolb discloses a method of claim 20, including the additional step, prior to the step of purchasing the long put, of selecting the long put so that the net delta of the portfolio is below a threshold value (Ch. 10, p. 295; Ch. 11, 313-316. Ch. 11, 304-346).

**Re. Claim 22**, Kolb discloses a method of claim 20, including the additional step, prior to the step of purchasing the long put, of selecting the long put so that the net delta of the portfolio is minimized (Ch. 1, pp.3-4; Ch. 10, p. 295; Ch. 11, 313-316).

**Re. Claim 23**, Kolb discloses a method of claim 1, wherein the step of dynamically hedging the tracking basket comprises a re-assessment of the dispersion of the tracking basket (Ch. 4, p. 101-105).

Art Unit: 3628

**Re. Claim 24**, Kolb discloses a method of claim 23, wherein the re-assessment occurs periodically Ch. 4, p. 98-105).

**Re. Claim 25**, Kolb discloses a method of claim 23, wherein the re-assessment occurs in response to prescribed events (Ch. 4, p. 101-105).

**Re. Claim 26**, Kolb discloses a method of claim 23, wherein the re-assessment of the dispersion of the tracking basket comprises one or more of the following: rolling the hedge into a later maturity period, trading at least a portion of the hedge, and permitting at least a portion of the hedge to expire (Ch. 4, p. 101-105).

**Re. Claim 27**, Kolb discloses a method of claim 26, wherein the re-assessment is performed in accordance with predetermined criteria (Ch. 4, p. 101-105).

**Re. Claim 28**, Kolb discloses a method of claim 26, wherein the re-assessment includes:

1. performing a skew analysis on at least a portion of the equities in the tracking basket over one or more maturity periods to identify a first set of options each commanding a premium;
2. identifying a second set of options each of which has a relative implied volatility which is greater than its historical volatility in a given maturity period;
3. balancing the implied volatility percentage from of the options in the first set against the relative implied volatilities of the options in the second set to identify a selection of options to sell;
4. buying put options on the underlying index in an amount sufficient to cover at least the notional amount of the equities in the tracking basket; and
5. selling the selection of options to raise premium in an amount greater than the cost of the put options bought in the buying step (Ch's 4, 10 & 11).



**Re. Claim 29**, Kolb discloses a tracking basket comprising a set of equities greater than one in which the equities in the set have, relative to an underlying index, a high degree of correlation to the underlying index and at least a predetermined volatility differential relative to the underlying index (Ch. 4).

**Re. Claim 30**, Kolb discloses a tracking basket as in claim 29, wherein the set of equities comprises less than a predetermined percentage of the underlying index (Supra).

**Re. Claim 31**, Kolb discloses a tracking basket as in claim 30, wherein the predetermined percentage is 70%, whereby the tracking basket is not substantially identical to the underlying index (Ch. 4).

**Re. Claim 32**, Kolb discloses a software program contained on a computer-readable medium which, when executed within a digital computer, causes the computer to:

- a) access current price information on a designated underlying index, and each of the equities in a tracking basket established in accordance with prescribed criteria;
- b) perform a skew analysis on at least a portion of the equities in the tracking basket over one or more maturity periods to identify a first set of options each commanding a premium;
- c) identify a second set of options each of which has a relative implied volatility which is greater than its historical volatility in a given maturity period;
- d) balance the implied volatility percentage from of the options in the first set against the relative implied volatilities of the options in the second set to identify a selection of options to sell;
- e) identifying one or more put options which, together with the selection of options to sell, results in a net delta of a portfolio which includes the tracking basket, the selection of options to sell, and the identified put options is below a threshold value; and

Art Unit: 3628

e) display on a monitor connected to the computer the selection of options to sell and the identified put options, whereby the software program automatically identifies a generally risk neutral portfolio (Page xiii, lines 1-9; Ch. 7, lines 23-33).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Siegfried Chencinski whose telephone number is 703-305-6199. The Examiner can normally be reached Monday through Friday, 9am to 6pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Hyung S. Souh, can be reached on 703-308-0505.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Receptionist whose telephone number is (703) 308-1113.

Any response to this action should be mailed to:

***Commissioner of Patents and Trademarks  
Washington D.C. 20231***

or faxed to:

**(703)305-7687** [Official communications; including  
After Final communications labeled  
"Box AF"]

**(703) 746-8177** [Informal/Draft communications, labeled  
"PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington, VA, 7<sup>th</sup> floor receptionist.

SEC

March 17, 2003



**JEFFREY PWU  
PRIMARY EXAMINER**